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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,230	06/10/2002	Manfred Dilger	225MU/50870	9509

23911 7590 04/29/2003

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EXAMINER

PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/049,230

Applicant(s)

DILGER ET AL.

Examiner

Vishal Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 8-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_

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### DETAILED ACTION

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-42 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims have numerous problems of trademark represented in the claims and also "and/or" which make the claims indefinite, see examples below:

Claim 8, lines 7 and 13, "and/or".

Claim 16-19, 33-34 and 39-41, line 3, "Kevlar, Type 49, from DuPont".

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reisinger et al (US. 5,066,024) in view of Aksit (US. 6,406,027).

Reisinger disclose brush sealing ring used in a sealing element between components which can move relative to one another, in particular between a rotor and a stator as an element which is fixed to the stator, having an annular housing (housing having 5' and 4', fig. 3) and having a multiplicity of bristle (2) which are attached within the housing and protrude radially or axially

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out of the contour of the housing and whose free end faces form tangents with an imaginary, rotationally symmetrical or planar face, and

the bristles being composed of sections of strands and/or threads (strands and/or threads of 2) which are present in a wound arrangement, each section running in a loop shape (loop shape of 2) around a core (8) extending away from it without crossing over in such a way that its toe end faces from tangents with the same imaginary face which is spaced apart from the core;

the sections being arranged around the core in a plurality of layers one on top of the other and being secured in a fixed fashion with a clamping section (3);

the sections of the strands are secured between the core and the clamping section exclusively by means of frictional locking (fig. 3);

the core is shaped from a metal wire with a round cross section and the clamping section is shaped a metallic round tube which is slotted in the longitudinal direction (fig. 4);

in addition to their essentially, radial or axial orientation, the sections have a directional component in the circumferential directions outside the claiming region;

the sections have end faces (2 has end faces) which are manufactured by mechanical cutting or shearing off, by leaser beam cutting, if appropriate with water cooling or by means of water jet cutting (proves limitations are given little patentable weight in an apparatus claims);

the sealing ring is configured for sealing predominantly gaseous fluids, including hydrogen, turbo machines and electrical generators (intended use);

A method of making a sealing ring for sealing a space between a rotor and a stator (rotor 21 and stator 16), comprising:

fixing an annular seal housing (housing having 4' and 5') to the stator (fig. 3);

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placing a core (8) in the annular seal housing with a plurality of fiber strand sections (2) looped around the core (2 looped around 8) which extend with end faces forming tangents with an annular face spaced from the core to the sealing engage the rotor, and

clamping (clamping by 3) the strand sections to the core;

the strand sections are secured between the clamp and the core exclusively by frictional clamping.

Reisinger disclose the invention substantially as claimed above but fail to disclose the bristle being made of aramid fibers wound in to a bristle and the fibers are fine, angel hair aramid fibers. Aksit disclose a brush seal having bristles made of filaments of an aramid filament yarn (Kevlar, column 2, lines 35-37). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the bristles of Reisinger to be made form aramid filaments into a bristle as taught by Aksit, to provide bristles that have high strength (column 2, lines 28-40).

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shibano, Hall, Shaeffler et al, Bridges et al, Werner et al, Wolfe et al and Hoffelner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached on (703) 309-3179.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

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**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** 703-872-9326, for formal communications for entry before Final action: or,  
703-872-9327, for formal communications for entry after Final action.

**For informal or draft communications,** please label "**PROPOSED**" or "**DRAFT**" and fax to:  
703-746-3814.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive,  
Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP  
April 24, 2003

  
Anthony Knight  
Supervisory Patent Examiner  
Tech. Center 3600